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Forest Service
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File Code: 3410 **Date:** October 5, 1998
Route To:

Subject: 1998 Insect and Disease Aerial Detection Survey of the Apache-Sitgreaves National Forests

To: Forest Supervisor Apache-Sitgreaves National Forests

The annual insect and disease aerial detection survey was conducted over the Apache-Sitgreaves National Forests August 10-14, 20 and September 23, 1998. Enclosed you will find one copy each of 7 maps depicting the forest insect and pathogen activity for 1998. To facilitate future analysis needs and to standardize national reporting, conditions are now being recorded on USGS 1:100,000-scale metric topographic maps.

Ponderosa pine mortality associated with western pine beetle decreased from 7,630 acres in 1997 to 94 acres in 1998. The mortality was only seen in small pockets of 1 to 10 trees. Mortality due to *Ips* spp. decreased as well with 248 acres reported in 1997 and 155 in 1998. *Ips* killed trees were also found in small pockets of 1 to 10 trees.

Douglas-fir mortality decreased from 3,664 acres in 1997 to 420 acres in 1998. The damage was most extensive in two areas, near Alpine on the Apache portion and near Bear Canyon Lake on the Sitgreaves portion of the forests. Pockets of mortality ranged in size from small pockets of 1 to 10 trees up to a large polygon near Alpine in which 1000 trees were killed. True fir mortality due to a complex of insects and pathogens occurred on 492 acres. Most of the mortality was concentrated in the bear Wallow Wilderness and Chevelon Canyon.

Aspen defoliation increased in 1998. Defoliation ranged from light to heavy and was detected on a total of 5,224 acres (light: 867 acres; moderate: 1,759 acres and heavy: 2,598 acres). Only 821 acres of defoliation were recorded in 1997. Pockets of defoliation were seen throughout the forest where there was host type with the majority observed around Springerville.

Western spruce budworm defoliation was noted on 488 acres in 1998. Defoliation ranged from light to moderate (light 313 acres; moderate 175 acres) and was heaviest in the Escudilla Mountains. No apparent western spruce budworm defoliation had been noted in 1997.

Spruce aphid, *Elatobium abietinum,* defoliation was only recorded on 175 acres in 1998, down from 11,803 acres in 1997. Jill Wilson of our office and Ann Lynch of the Rocky Mountain Research Station have been investigating this insect and have found high levels of mortality in previously defoliated trees on the Fort Apache Indian Reservation.

If you have any questions concerning the survey or the information included here, please feel free to contact Bobbe Fitzgibbon (520-556-2072) or Steve Dudley (520-556-2071).

/s/ Borys M. Tkacz

Borys M. Tkacz

Zone Leader, Arizona Zone Entomology and Pathology

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